

**Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection
Division for Air Quality
200 Fair Oaks Lane, 1st Floor
Frankfort, Kentucky 40601
(502) 564-3999**

**AIR QUALITY PERMIT
Issued under 401 KAR 52:040**

Permittee Name: Chesapeake Appalachia, L.L.C.
Mailing Address: P.O. Box 6070, Charleston,
WV 25362-0070

Source Name: Warco Compressor station
Mailing Address: 900 Pennsylvania Ave. 900
Charleston, WV 25362-0070

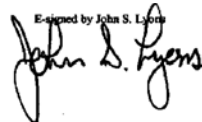
Source Location: KY 80 W Warco, KY 41645

Permit: S-07-077 R2
Agency Interest: 44034
Activity: APE20080003
Review Type: Minor source, Operating
Source ID: 21-071-00154

Regional Office: Hazard Regional Office
233 Birch Street, Suite 2
Hazards, KY 41701
(606) 435-6022

County: Floyd

Application
Complete Date: May 27, 2008
Issuance Date: June 11, 2007
Revision Date: December 23, 2008
Expiration Date: June 11, 2017

E-signed by John S. Lyons


**John S. Lyons, Director
Division for Air Quality**

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:040, State-origin permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining other permits, licenses, or approvals that may be required by the Cabinet or other federal, state, or local agencies.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emission Unit 01 (E01) Engine #1

Description:

Reciprocating engine; 4-cycle lean burn; 2000 HP

Model: White Superior 12SGTB W 76

Construction Date: 09/1999 (In-kind replacement completed in 2007)

Fuel Input: 14.3 mmBtu/hr

Primary Fuel: Natural Gas

Controls: None

Emission Unit 02 (E02) Engine #2

Description:

Reciprocating engine; 4-cycle lean burn; 2000 HP

Model: White Superior 12SGTB W 74

Construction Date: 09/1999 (In-kind replacement completed in 2007)

Fuel Input: 14.3 mmBtu/hr

Primary Fuel: Natural Gas

Controls: None

APPLICABLE REGULATIONS:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

1. Operating Limitations:

Pursuant to 401 KAR 63:020, persons responsible for a source from which hazardous matter or toxic substances may be emitted shall provide the utmost care and consideration, in the handling of these materials, to the potentially harmful effects of the emissions resulting from such activities. No owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants. Evaluation of such facilities as to adequacy of controls and/or procedures and emission potential will be made on an individual basis by the Cabinet.

Compliance Demonstration Method:

Refer to Section C.3.a

2. Emission Limitations:

None

3. Testing Requirements:

None

4. Specific Monitoring Requirements:

None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. Specified Recordkeeping Requirements:

None

6. Specific Reporting Requirements:

None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**Emission Unit 03 (E03) TEG dehydration unit****Description:**

TEG Reboiler and TEG Dehydrator Still Vent

Indirect heat exchanger

Construction Date: 09/1999

Fuel Input: 1.5 mmBtu/hr

Primary Fuel: Natural Gas

Controls: None

APPLICABLE REGULATIONS:40 CFR 63, *Subpart HH, Oil and Natural Gas Production Standards*.401 KAR 59:015, *New Indirect Heat Exchangers*, applies to the particulate matter and sulfur dioxide emissions from the combustion of natural gas and secondary fuel.**1. Operating Limitations:**

The source shall operate the TEG dehydration unit such that the actual glycol circulation rate does not exceed the optimum glycol circulation rate determined by the following equation (40 CFR 63.764 (d)(2)(i)):

$$L_{\text{opt}} = 1.15 * (3.0 \text{ gal TEG/ lb H}_2\text{O}) * [F * (I-O) / 24 \text{ hrs/ day}]$$

Where:

 L_{opt} = Optimal circulation rate (gal/ hr)

F = Gas flowrate (mmscf/ d)

I = Inlet water content (lb/ mmscf)

O = Outlet water content (lb/ mmscf)

3.0 = The industry accepted rule of thumb for a TEG- to water ratio (gal TEG/ lb H₂O)

1.15 = Adjustment factor included for a margin of safety

Compliance Demonstration Method:

Compliance shall be demonstrated by recordkeeping, and reporting requirements as listed below.

2. Emission Limitations:

- a. Pursuant to 401 KAR 59:015 Section 4(1)(a), the emissions of particulate matter from the combustion of either natural gas or secondary fuel shall not exceed 0.56 lb/mmBtu based on a three-hour average.
- b. Pursuant to 401 KAR 59:015 Section 4(2), permittee shall not discharge into the atmosphere from each boiler stack emissions which exhibit greater than twenty (20) percent opacity, based on a 6-minute average, except as allowed by 401 KAR 59:015, Section 4(2)(b) and (c). [401 KAR 59:015, Section 4 (2), Standard for Particulate Matter]
- c. Pursuant to 401 KAR 59:015 Section 5(1)(a), the emissions of sulfur dioxide from the combustion of either natural gas or secondary fuel shall not exceed 3 lb/mmBtu based on a three-hour average.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:

Compliance with the particulate matter, opacity, and sulfur dioxide limit is demonstrated while burning natural gas.

3. Testing Requirements:

None

4. Specific Monitoring Requirements:

None

5. Specific Recordkeeping Requirements:

The facility shall keep records of the calculation used to determine the optimum glycol circulation rate in accordance with 40 CFR 63.764 (d)(2)(i).

6. Specific Reporting Requirements:

None

SECTION C - GENERAL CONDITIONS

1. Administrative Requirements

- a. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:040, Section 3(1)(b) and is grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.
- b. This permit shall remain in effect for a fixed term of ten (10) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division. [401 KAR 52:040, Section 15].
- c. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a-11 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- d. Pursuant to materials incorporated by reference by 401 KAR 52:040, this permit may be revised, revoked, reopened, reissued, or terminated for cause. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance shall not stay any permit condition [Section 1a-4, 5, of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- e. This permit does not convey property rights or exclusive privileges [Section 1a-8 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- f. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:040 Section 11(3)].
- g. This permit shall be subject to suspension at any time the permittee fails to pay all fees within 90 days after notification as specified in 401 KAR 50:038, Air emissions fee. The permittee shall submit an annual emissions certification pursuant to 401 KAR 52:040, Section 20.

SECTION C - GENERAL CONDITIONS (CONTINUED)**2. Recordkeeping Requirements**

- a. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of at least five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [401 KAR 52:040 Section 3(1)(f) and Section 1b-IV-2 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- b. The permittee shall perform compliance certification and recordkeeping sufficient to assure compliance with the terms and conditions of the permit. Documents, including reports, shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21.

3. Reporting Requirements

- a. (1) In accordance with the provisions of 401 KAR 50:055, Section 1, the permittee shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
 - i. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
 - ii. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.
- (2) The permittee shall promptly report deviations from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Reporting Requirement condition a.(1) above), the probable cause of the deviation, and corrective or preventive measures taken; to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report [Section 1b-V-3 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- b. The permittee shall furnish information requested by the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the permit [Section 1a-6 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- c. Summary reports of monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation. The summary reports

SECTION C - GENERAL CONDITIONS (CONTINUED)

are due January 30th and July 30th of each year. All deviations from permit requirements shall be clearly identified in the reports. All reports shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21.

4. Inspections

In accordance with the requirements of 401 KAR 52:040, Section 3(1)(f) the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency:

- a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation.
- b. To access and copy any records required by the permit.
- c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit.
- d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

5. Emergencies/Enforcement Provisions

- a. The permittee shall not use as defense in an enforcement action, the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a-3 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- b. An emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
 - (1) An emergency occurred and the permittee can identify the cause of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - (4) The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two working days after the time when emission limitations were exceeded due to the emergency and included a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
- c. Emergency provisions listed in General Condition 5.b are in addition to any emergency or upset provision contained in an applicable requirement [401 KAR 52:040, Section 22(1)].
- d. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [401 KAR 52:040, Section 22(2)].

SECTION C - GENERAL CONDITIONS (CONTINUED)**6. Compliance**

- a. Periodic testing or instrumental or non-instrumental monitoring, which may consist of record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstration of continuing compliance with the conditions of this permit. For the purpose of demonstration of continuing compliance and pursuant to 401 KAR 50:055, General compliance requirements, Section 2(5), all air pollution control equipment and all pollution control measures proposed by the application in response to which this permit is issued shall be in place, properly maintained, and in operation at any time an affected facility for which the equipment and measures are designed is operated, except as provided by 401 KAR 50:055, Section 1.
- b. Pursuant to 401 KAR 52:040, Section 19, the permittee shall certify compliance with the terms and conditions contained in this permit by January 30th of each year, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an approved alternative) to the Regional Office listed on the front of this permit in accordance with the following requirements:
 - (1) Identification of the term or condition;
 - (2) Compliance status of each term or condition of the permit;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The method used for determining the compliance status for the source, currently and over the reporting period, and
 - (5) For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.
 - (6) The certification shall be postmarked by January 30th of each year. Annual compliance certifications shall be mailed to the following addresses:

Division for Air Quality	Division for Air Quality
Hazard Regional Office	Central Files
233 Birch Street, Suit 2	200 Fair Oaks Lane, 1 st Floor
Hazard, KY 417101	Frankfort, KY 40601-1403
- c. Permit Shield - A permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with all:
 - (1) Applicable requirements that are included and specifically identified in this permit; or
 - (2) Non-applicable requirements expressly identified in this permit [401 KAR 52:040, Section 11].

SECTION D - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:040, Section 6. While these activities are designated as insignificant the permittee shall comply with the applicable regulation and any level of periodic monitoring specified below.

<u>Description</u>	<u>Generally Applicable Regulation</u>
1. T1- 7.1 bbl lube oil tank	All: 401 KAR 63:10
2. T2- 11.9 bbl double wall waste tank	
3. T3- 11.9 bbl double wall antifreeze	
4. T4- 11.9 bbl double wall antifreeze	
5. T5- 71.4 bbl double wall lube oil	
6. T6- 7.1 bbl lube day tank	
7. T7- 02 bbl waste fluid pump tank	
8. T8- 02 bbl waste fluid pump tank	
9. T9- 02 bbl waste fluid pump tank	
10. T10- 100 bbl double wall waste fluid tank	
11. T11- 100 bbl double wall waste fluid tank	
12. T12- 15 bbl double wall glycol	
13. T13- 12 bbl double wall glycol	
14. T14-12 condensate tank	
15. Equipment leaks	